Innovation for Adoption

Consideration has been given to three pieces of technology that could potentially increase student connectivity and eliminate the phenomenon of dated information. They included the digital textbook, the computer (smart) notebook, also known as the mini-laptop computer, and the smart phone. The innovation selected for this study is the digital textbook. The device is actually a very small computer that has many of the capabilities of its larger counterparts. It is easily carried and the smallest students, yet large enough to be comfortably used by adults. The potential uses for this piece of technology include serving as a replacement tool for larger laptops, notepads, desktop units, and printed text books. The benefits to the education industry include connectivity for the student and teacher, the use and development of current, real-time information, and (still being developed) the opportunity to participate in events as they occur. Students will no longer read about an event in the future tense long after it has occurred. Further, students will eventually be more able to communicate with counterparts in other schools, states, and countries through email or live video feed in collaborative exercises.

Although there are obstacles concerning the creation of a digital infrastructure in some areas, along with the initial cost of replacing books and some computers with these devices, much is already in place. Administrators and those who tend to finance and the budget must consider a re-tooling of the purchasing paradigm, considering a digital alternative to text books and other technology that is not as flexible or functional as the electronic textbook. There may also be those teachers that will not accept the newer technology in lieu of that with which they are more comfortable. The electronic textbook is a very versatile piece of technology that is just now becoming truly functional as a tool for educators. Users can insert CDs or DVDs containing reading material, or they can connect directly to the Internet using wifi and upload reading material (Shepperd, Grace, & Koch, 2008). Some more popular forms of electronic book, such as the Kindle, are currently being considered as possible traditional test book replacements (Young, 2009). At the present few electronic books possess the functionality of a complete desktop unit. Researchers and engineers are looking into improving the functionality of the device so that it has complete connectivity and functions as a computer replacement (Waters, 2010). Eventually, it is thought that many electronic books will resemble a hybrid combination between the Kindle and the iPad (Butler, 2010).

Consideration was given to the electronic book over the mini-laptop and the Smart phone because it has more potential than either of the other two choices. Further, although there are inherent difficulties with each of the three devices, those of the digital text book are being scrutinized and overcome much more rapidly than the other devices. The digital textbook would, as currently designed, display digital representations of material available in analog texts (Kinney, 2010). There has been consideration given to the development of adaptive texts to be available on the World Wide Web and available through the digital text interface (Brusilovsky, Shwartz, & Weber, 1996). The mini computer, though versatile, may prove difficult to use without the proper infrastructure being present (James, 2010). The Smart phone also lacks some aspects of connectivity and capability, unless one it truly eager to complete reports and papers on a keyboard that allows only one finger at a time due to size. Further, although very connected, the Smart phone has the potential problem of losing student attentiveness due to the social nature of the device (Menchhofer, Elston, Newcomb, & Van Gundy, 2010).

While the complete turnover of entire libraries of textbooks and labs of computers has not yet happened, there has been research conducted to incorporate the laptop computer, in any form, into class rooms of third-world nations. The digital textbooks, being less expensive and more “user friendly”, would be more easily adopted by nations with small annual budgets and large populations. Further, the digital books are more durable and more easily used (touch-pads and touch-screens) in many cases than computers and many Smart phones and would last much longer in more varied environments (Shepperd, Grace, & Koch, 2008).

References

Brusilovsky, P., Shwartz, E., & Weber, G. (1996, October). A tool for developing adaptive electronic textbooks on the www. Paper presented at the Web 96 Convention in San Francisco, CA. Retrieved from the World Wide Web on Dec 23, 2010: <http://www.eric.ed.gov/PDFS/ED427653.pdf>

Butler, K. (2010). A small district’s big innovator. *District Administrator*, 46(9). pp.78-80. Retrieved from the World Wide Web on Dec 23, 2010: <http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?hid=9&sid=bcbd212c-074a-4eae-b4bf-cc364c14c47a%40sessionmgr10&vid=8>

James, J (2010). New technology in developing countries: A critique of the one-laptop-per-child program. Social Science Computer Review, 28(3): pp.361-390. Retrieved from the World Wide Web on Dec 14, 2010: [http://ssc.sagepub.com.ezp.waldenulibrary.org/content/28/3/381.full.pdf+html.](http://ssc.sagepub.com.ezp.waldenulibrary.org/content/28/3/381.full.pdf+html)

Kinney, Scott (2010): **8-Track tapes, covered wagons, textbooks: There's a better way** [Formal Session: Presentation]. Available from: <http://center.uoregon.edu/ISTE/2010/program/search_results_details.php?sessionid=50024852&selection_id=62018119&rownumber=1&max=42&gopage>=

Menchhofer, K. Elston, L., Newcomb, S., & Van Gundy, J. (2010): From pilot to integral: Smartphone computers in a rural school district [Formal Session: Lecture]. Available from: <http://center.uoregon.edu/ISTE/2010/program/search_results_details_print.php?sessionid=48648446>

Shepperd, J., Grace, J., & Koch, E. (2008). Evaluating the electronic textbook: Is it time to dispense with the paper text?. *Teaching of Psychology*, 35(1). pp. 2-5. <http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?hid=9&sid=bcbd212c-074a-4eae-b4bf-cc364c14c47a%40sessionmgr10&vid=9>

Waters, J. (2010).Enter the ipad (or not?). *T.H.E. Journal,* 37(9). pp.38-40. Retrieved from the World Wide Web on Dec 23, 2010: <http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?hid=9&sid=bcbd212c-074a-4eae-b4bf-cc364c14c47a%40sessionmgr10&vid=7&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=eric&AN=EJ894833>

Young, J. (2009). How kindle could change the textbook market. Chronicle of Higher Education, 55(36). p. A4. Retrieved from the World Wide Web on Dec 23, 2010: <http://web.ebscohost.com.ezp.waldenulibrary.org/ehost/detail?hid=9&sid=bcbd212c-074a-4eae-b4bf-cc364c14c47a%40sessionmgr10&vid=8&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=eric&AN=EJ846673>